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909 7	590 06/17/2004		EXAMINER	
PILLSBURY WINTHROP, LLP			HO, THOMAS M	
P.O. BOX 10500 MCLEAN, VA 22102			ART UNIT	PAPER NUMBER
,			2134	Λ
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Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

1. Claims 1-63 are pending.

Response to arguments

2. Applicant argues (page 10, last paragraph – page 11 first paragraph):

More specifically, the Office action provided inter alia that "since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass."

Applicants submit that claim 1 clearly recites steps involved in the method "for control and maintenance of operational organization structure." Particularly, the method of claim 1 comprises steps of "electronically" "associating entities with cryptographic capabilities", "organizing entities within the organizational structure as roles", and "maintaining roles within the organizational structure." Accordingly, the rejection of claim 1, under 35 § USC 112, second paragraph is traversed and applicants submit that claim 1 is allowable.

Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection under 35 § USC 112, first paragraph.

Applicant's arguments, see page 11, paragraphs 3-6, filed3/29/04, with respect to Claim 1 have been fully considered and are persuasive. The rejection of claim 1 under 35 § USC 101 10/28/03 has been withdrawn.

Art Unit: 2134

Applicant(page 12, paragraph 2) further argues

For example, the teachings of Lampson et al. fail to at least disclose, teach, or suggest a "method for control and maintenance of an operational organizational structure," comprising "associating entities with cryptographic capabilities", "organizing entities within the organizational structure as roles", and "maintaining roles within the organizational structure" as recited in independent claim 1 and its dependent claims 1-4, 6-10, and 13-15.

Lampson et al. merely disclose a theory of authentication and a system that implements it.

The Examiner maintains that Lampson et al. does indeed teach, or suggest a "method for control and maintenance of an operational organizational structure," comprising "associating entities with cryptographic capabilities", "organizing entities within the organizational structure as roles", and "maintaining roles within the organizational structure". Applicant argues that Lampson merely discloses a theory of authentication and a system that implements it. The Examiner maintains that "the theory of authentication and system that implements it" is the "method" in which a system in which an operational organization structure is controlled, where the operational structure is the structure of the authentication system that needs to be maintained as disclosed by Lampson et al. The Examiner further maintains that a certification authority is clearly an entity with a cryptographic capability that is "associated with the organization" and

Art Unit: 2134

with a very specific role that must be "maintained" in order for Lampson et al's theory or

"method" to work.

Further and more specifically, applicants' submit that Lampson et al. fail to disclose, teach or

suggest organizing entities within an organization structure as roles, entities which have

associated cryptographic capabilities. While Lampson et al. disclose an authentication system

that may be applied to an organization, Lampson et al. fail to disclose any method for organizing

entities with an organization as roles. The only roles Lampson et al. discuss are roles, for

principals, that appear to be supplied to the authentication system of Lampson et al. See, eg p.

268 of Lampson et al. as cited by the office action. Lampson et al. provide no disclosure,

suggestion or teaching regarding organization entities within an organizational structure as roles

as recited in claim 1.

The Examiner maintains the position that the roles that Lampson et al. discusses are roles for

principals, where the principals themselves are "entities"

Applicant's arguments filed 3-29-04 have been fully considered but they are not persuasive.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

Art Unit: 2134

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification fails to illustrate how the method for control and maintenance of an operational organization structure is "electronically" implemented..

Claim 1 is further rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. Any subject matter illustrating how the method for control and maintenance may be implemented electronically are critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

Claim Rejections - 35 USC § 102

- 4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:
 - (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2134

5. Claims 1-10, 13-39, 41-44, 47-57, 59, 61-63 as best understood are rejected under 35

U.S.C. 102(b)

In reference to claim 1:

Lampson et al. discloses a method for control and maintenance of an operational organizational

structure, where the operational organizational structure is the organization structure of the

distributed authentication system, the method comprising:

Associating entities with cryptographic capabilities, where the certification authority is an entity

associated with cryptographic capabilities; (Section 5.1 p.283-286)

Organizing entities within the organizational structure as roles, and maintaining roles within the

organizational structure, where an entity in organization structure can also be a Principal, and the

example is given of the entity being organized as a role, where the role is manager, and the entity

that is organized is Abadi.

"Principals in Roles Abadi as Manager" (Section 2. Concepts P.268)

In reference to claim 2:

Lampson et al. (Section 4.1 – Section 4.4 p. 275-279) discloses a method wherein the method

involves a public key infrastructure operation, where the public key infrastructure operation may

be Encrypt, Decyrpt, or the selection of Keys.

In reference to claim 3:

Art Unit: 2134

Lampson et al. (Section 2. Concepts P.268) discloses a method wherein the control and

maintenance further comprises:

Assigning elements in said organizational structure to roles within said organizational structure,

where the element is a person/people and the role is a manager, and the elements are assigned

these roles in the manner in which "Abadi" is assigned to be manager.

In reference to claim 4:

Lampson et al. (section 5.3 P.290) discloses a method wherein the control and maintenance

further comprises:

Assigning elements in said organization structure to groups within said organizational structure,

where a principal P may be a member of a group through a certificate which denotes

membership.

Claim 5 and 6 are rejected for the same reason as claim 4.

In reference to claim 7:

Lampson et al. (Section 9. Access Control . 305-308) discloses a method wherein said

cryptographic method involves access control technology, where the access control technology is

an access control list.

Claim 8 is rejected for the same reason as claim 7.

Art Unit: 2134

In reference to claim 9:

Lampson et al. (p.270 1st paragraph) discloses a method where said cryptographic method involves at least a database operation, where a database is searched to justify access control decisions.

In reference to claim 16:

Lampson et al. discloses a system for control and maintenance of an operational structure involving at least:

- one cryptographic method, where the cryptographic method is public key cryptography (Section 4.1 Section 4.4 p. 275- 279)
- entities within organizations, characteristics of said entities and relationships between said entities, where the entities are principals. (Section 2. Concepts P.268)
- where the capabilities, functions, characteristics, and relationships of entities are maintained and changed, where the changing is done through statements, and the statements denote actions that principals can say (Section 3.1- Section 4, pages 271-274)

In reference to claim 17:

Lampson et. al. (Section 2. Concepts, page 268) discloses a system where at least one of said entities is an individual in an organization under "People: Lampson, Abadi"

Art Unit: 2134

In reference to claim 18:

Lampson et al. (Section 2. Concepts, page 268) discloses a system where at least one of said entities is a group of individuals in an organization.

In reference to claim 19:

Lampson et al. (Section 2. Concepts, page 268) discloses a system where at least one capability is a role in an organization.

In reference to claim 20:

Lampson et al. (Section 2. Concepts, page 268) discloses a system where at least one capability is a task in an organization.

In reference to claim 21:

Lampson et al. (Section 2. Concepts, page 268) discloses a system where at least one function is an operation by a functionary in an organization.

In reference to claim 22:

Lampson et al. (Section 2. Concepts, page 268) discloses a system where at least one function is an operation by a group of functionaries in an organization, where a group is a Principal and Principals may take on roles or "functions".

In reference to claim 23:

Art Unit: 2134

Lampson et al. (p. 269 4th paragraph and Section 5.2, p. 286-290) discloses a system where at

least one of said characteristics and relationships is represented in a directory.

In reference to claim 25:

Lampson et al. (Figure 6, page 287) discloses a system where at least one of said characteristics

and said relationships is represented in a public key infrastructure directory.

In reference to claim 27:

Lampson et al. (Figure 6, page 287) discloses a system where said system's operations involve

updating at least one public key infrastructure directory, where the authentication tree

demonstrates the public key infrastructure directory.

In reference to claim 30:

Lampson et. al (p.283) discloses a system where said changing of the said maintained elements

comprises change of databases, where the elements are principals and the credentials of an

element are looked up in the database.

In reference to claim 31:

Lampson et. al (p.283) discloses a system where said changing of the said maintained elements

comprises change of cryptographic certification information within the public key infrastructure

directories and further database changes, where the elements are principals, and a change of

Art Unit: 2134

cryptographic certification information would change the credentials of the element in the

database.

In reference to claim 32:

Lampson et. al. (Section 5.1, 5.2, p.283-290) discloses a system where said entities, said

characteristics and said relationships are maintained by combining database components and

components of certification authorities of a public key infrastructure,

where the entities are principals and their characteristics and relationships are maintained by

combining information from the database (the credentials of the entities) and the certificates

provided by the certification authorities of the public key infrastructure.

In reference to claim 33:

Lampson et. al. (p. 269 4th paragraph) discloses a system where said entities are represented in at

least first directory, where the entities are principals and

"/com/dec/src/burrows and /com/dec/src/abadi" are first directories where the entities are

represented

(Section 5.2, Path Names and Multiple Authorities, p. 287-290) discloses a system where said

characteristics and said relationships are represented in at least second directory, where the

second directory is tree or directory of authentication, and the paths within the directory hold

represent the cryptographic relationships between the entities.

Claim 34 is rejected for the same reason as claim 33.

Art Unit: 2134

In reference to claim 37:

Lampson et. al. (Section 5.1, A single certification authority, p. 283-286) discloses a system

where said system's operation is activated by at least one designated entity amongst said entities,

where the one designated entity is principal A, in first initiating the transaction.

In reference to claim 38:

Lampson et. al. (Section 5.1, A single certification authority, p. 283-286) demonstrates a system

where said system's operation is activated based on agreed upon rules, where the agreed upon

rules are apparent in the operation of the users interacting with the certification authority.

In reference to claim 42:

Lampson et. al. (Section 5.2, Path Names and Multiple Authorities, p. 287-290) discloses a

system where said characteristics and said relationships define authorization rules based on

access structure, where the relationships defined by the authorization tree defines the

authorization rules.

Claims 43 and 44 are rejected for the same reason as claim 42.

In reference to claim 47:

Page 13

Art Unit: 2134

Lampson et al. (p.286, 2nd paragraph) discloses a system with the additional operation of monitoring operations within a system, where a timestamp is well known in the art to be considered a monitoring operation.

In reference to claim 48:

Lampson et al. (p.286, 2nd paragraph) discloses a system with the additional operations of time stamping operations within said system.

In reference to claim 49:

Lampson et al. discloses a system of authentication in distributed systems where it is understood that at least one of said system's operations is performed distributedly via communication.

Lampson et al. (Section 5.1, A single certification authority, p. 283) specifically discloses contacting a certification authority as an operation performed distributedly.

In reference to claim 50:

Lampson et al. (p. 283) discloses a system where at least one of said system's operations is a distributed database operation.

In reference to claim 52:

Lampson et. al. (Section 5.1, A single certification authority, p. 283 – 286) discloses database system representing an organization involving directories representing entities, their

characteristics, roles, and relationships together with their associations with cryptographic capabilities, the database system comprising following transactional components:

Connection to cryptographic authorities representing the cryptographic capabilities associated with said entities, said characteristics, and said relationships, where the cryptographic authorities are certification authorities, and the entities are principals who communication to the CA's in cryptographic transactions.

A maintenance system by which said database and said cryptographic authorities are maintained in coordination and by authorized parties assuring the representation of said organization and said cryptographic capabilities are soundly associated as defined by the coordination directives, where the maintenance of the authorizations is observed through the use of certification authorities, and using the database to check access control transactions. Lampson et al. (p.270 1st paragraph)

Maintainance transactions acting within said maintenance system, maintaining view representing an organization, where the maintenance transaction are database accesses to justify granting accesses Lampson et al. (p.270 1st paragraph)

In reference to claim 53:

Lampson et. al. (Section 2, p. 268 - 270) discloses a system wherein said organization comprises a plurality of entities, where entities are principals.

In reference to claim 54:

Art Unit: 2134

Lampson et. al (Section 5.2, Path Names and Multiple Authorities, p. 286-290) discloses a system wherein said cryptographic authorities is a plurality of at least one certification authorities.

In reference to claim 56:

Lampson et al. (Section 5.2, Path Names and Multiple Authorities, p. 286-290) discloses a system wherein said cryptographic authorities is a plurality of authorities organized hierarchically.

In reference to claim 57:

Lampson et al. (Section 9, Access Control, p. 305-307) discloses a system wherein said authorized parties are maintained by another instantiation of the system, where the other instantiation is the access control list.

In reference to claim 59:

Lampson et al. (Section 5.2, Path Names and Multiple Authorities, p. 283-286) discloses a system wherein said coordinating directives involve cryptographic fields assuring integrity of the operation, wherein the coordination of the entities with the certification authorities assure integrity of the operation

In reference to claim 61:

Application/Control Number: 09/503,181 Page 16

Art Unit: 2134

Lampson et. al. (p. 285) discloses a system wherein cryptographic capabilities involve digital certificates.

In reference to claim 62:

Lampson et. al. (Section 2, p. 268 – 270) discloses a system wherein said organization comprise various organizational units, where the organization is the distributed authentication system, and the organizational units are defined as Concepts and other such units as principals, people, machines, services groups, all of which comprise an organization.

In reference to claim 63:

Lampson et. al. (Section 2 and Section 3.1,3.2, p. 268 – 272) discloses a system wherein said organization comprise of various organizational units where entities are defined in one unit and their roles are defined within a second unit, where the concept of Principals comprises entities, and the roles are defined in a second concept, in statements.

Claim Rejections - 35 USC § 103

- 6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 7. Claims 11, 12, 40, 45-46, 58, 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lampson et. al.

Art Unit: 2134

In reference to claim 11:

Lampson et al. discloses a method for operational organizational structure for authentication in distributed systems however does not explicitly disclose a method wherein the operational organizational structure represents at least one commercial organization.

Lampson et al. additionally reveals intent to do this as disclosed in (Section 2. Concepts p.268) where some of the possible values for the groups are SRC and DEC employees.

It would have been obvious to one of ordinary skill in the art to use this in distributed systems requiring cryptographic security, including commercial organizations given Lampson et al.'s intent to apply the model to any kind of distributed system requiring authentication, including commercial organizations.

Claim 12 is rejected for the same reason as claim 11.

In reference to claim 40:

Lampson et al. (p. 283 – 290) discloses an instance of a database involving entities and relationship, but does not disclose an instance where the system's operation is a database maintenance operation.

The examiner takes official notice that database maintenance operations are well known to those skilled in the art are necessary to maintain the function and integrity of databases.

Art Unit: 2134

It would have been obvious to one of ordinary skill in the art at the time of invention to

include some instance where the operations being performed on the database were database

maintenance operations given the need to maintain the database in some way.

In reference to claim 45:

The examiner takes official notice that logging system's operations are well known in the art.

It would have been obvious to one of ordinary skill in the art at the time of invention to

log the system operations of Lampson et. al.'s disclosure given the advantage of being able to

have a formal record for the actions of the certification authorities and the logins by the users.

Claim 46 is rejected for the same reason as claim 45.

In reference to claim 58:

Lampson et al. does not explicitly disclose a system wherein said authorized parties are assigned

by management of said organization. However it is well understood in the art that the decision

of cryptographic authorities to use, or the decision on the authorizations that certain party may

have can only be granted by a higher authority.

It would have been obvious to one of ordinary skill in the art at the time of invention to

assign the authorized parties used in Lampson et al. by the management of the organization.

In reference to claim 60:

Art Unit: 2134

Lampson et al. does not explicitly disclose a system wherein said maintaining view representing an organization may present different characteristics and components to different outside reviewers.

The Unified Modeling Language (UML) 1.0 discloses different view representations of a particular model each subject to different reviews and each view presenting different characteristics and components. (UML Semantics version 1.0, p. 93-96)

It would have been obvious to one of ordinary skill in the art at the time of invention to allow different aspects of the modeled system in Lampson et al. to be presented to different outside reviewers, given the advantage to observe one set of characteristics about the model to review only a particular aspect of the modeled system.

Conclusion

8. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of the final action and the advisory action is not mailed under after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension pursuant to 37 CFR 1.136(A) will be calculated from the mailing date of the advisory action. In no event, however,

Page 20

Application/Control Number: 09/503,181

Art Unit: 2134

will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas M Ho whose telephone number is (703)305-8029. The examiner can normally be reached on M-F from 8:30am – 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory A. Morse can be reached at (703)308-4789. The fax phone numbers for the organization where this application or proceeding is assigned are (703)746-7239 for regular communications and (703)746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-5484.

TMH

June 11th, 2004

SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100